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ABSTRACT

Focusing on issues involved in improving the education of low-income children, this paper identifies two categories of questions: (1) programmatic questions, which concern what and how to teach; and (2) procedural questions, which concern how best to insure implementation of instructional approaches. The discussion also provides a summary of what Project Follow Through has revealed about instructional models and sponsorship, and proposes a multiple-evaluation design for a second generation of Follow Through studies. It is suggested that, while Follow Through investigators have intended that programmatic questions be resolved through a variety of instructional models, considerable controversy has arisen concerning the degree to which answers have been provided about teaching young disadvantaged children. It is also asserted that procedural questions have related to the processes of implementing instructional systems under sponsorship. Throughout, the discussion assumes that interest in studying the usefulness of instructional models and sponsorship as educational improvement strategies still exists. To evaluate such strategies, it is proposed that research compare the effects of Follow Through sponsorship against the effects of dissemination of knowledge only on change in instruction and on the specific impact of various instructional models. (RH)

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Instructional Models, Model Sponsors, and Future Follow Through Research[1]

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I. Introduction

A second generation study (or studies) informed by the lessons learned and the problems identified in Follow Through is certainly needed (Hodges, 1978). The fact that the National Institute of Education (NIE) is seeking ways to capitalize on the past is encouraging. The need for improving education in general and for poor children in particular is still critical. Hopefully, the decision that will be made is to "try harder" rather than "give up" (Rivlin and Timpane, 1965).

The Follow Through Planned Variation Experiments were bold new ventures in education that addressed important problems. These studies required collaboration among the U.S. Office of Education, state departments of education, local education agencies, and educational model builders (sponsors). A deliberate effort was made to empirically compare and contrast the effects of educational models derived from different theoretical and philosophical points-of-view. St. Pierre (Note 1) has suggested that Follow Through "serves vital functions in providing funds for curriculum research and development under field conditions. In this light, Follow Through has probably come closer to being a 'reform as an experiment' (Campbell, 1969) and to Campbell's (Note 2) vision of the 'experimenting society' than any other Federal program" (page 21).

In initiating such bold new ventures it is not surprising that the original experiments suffered from defects in design and execution (Haney,

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*This paper draws extensively from previously published and unpublished works of the author and his colleagues in the Follow Through Model Sponsor's headquarters at Georgia State University--The Parent Supported Diagnostic Approach. The development of this paper was supported by the National Institute of Education.

1977; House, Glass, McLean, & Walker, 1978; Anderson, St. Pierre, Proper, and Stebbins, 1978; Wisler, Burns, & Iwamoto, 1978; Hodges, 1978; Kennedy, 1978; Bereiter & Kurland, 1978; and St. Pierre, 1978). Kennedy (1978) even suggested that:

> ...The Follow Through study was more likely to fail than to succeed. The models assessed were confounded with their sponsors' abilities to manage multiple-site implementation, as well as with a variety of characteristics of communities and children exposed to them. The tests did not equally reflect the goals of all the models. During the life of the study, children moved, schools collapsed, and teachers came and went. The degree of implementation depended on unions, administrators, and even school boards as much as on sponsors and teachers. The design flaws alone have caused the study to be labeled a good example of a bad evaluation. (p. 10-11)

Kennedy is, however, one official who has taken a positive view of the study in spite of its severe limitations. She recognized that the study produced new knowledge and raised important research issues.

Program evaluation techniques were not well developed in 1967-1968 when the planned variation concept was first applied to the Follow Through program. Measurement tools were lacking. The original Follow Through staff in the Office of Education was not selected for its research background since Follow Through was intended to be a service rather than research program. Actions had to be taken swiftly and there was little chance to hone ideas in the crucible of collegial discussion and criticism.

The history of the Follow Through Planned Variation experiment is found in a variety of sources, but the most complete documentation is found in Haney (1977) and Villaume and Haney (1977). That history highlights a wide range of problems that need to be considered in order to plan well for future intervention studies. The history will not be repeated here.

This paper focuses on two interrelated categories of questions involved in improving the education of low-income children. The first category is programmatic--what and how to teach--and includes both the content and the strategies of instruction. In Follow Through the programmatic questions were to be resolved through a variety of instructional models. Considerable controversy has arisen concerning the degree to which the questions of how to teach young disadvantaged children have been answered.

The second set of questions is procedural--how best to insure implementation of an instructional approach. In Follow Through these questions are reflected in the processes of installing and implementing an instructional system using a third-party intervention strategy called sponsorship. Many Follow Through data and the experiences of those who participated show that more questions have been generated concerning the processes of educational change than have been answered.

This author assumes that there is still interest in studying the usefulness of instructional models and of sponsorship as educational improvement strategies either singly or in combination. Both concepts are logically appealing, now have a history upon which to build, and have been shown to be effective under appropriate circumstances.

The paper includes a summary of what Follow Through revealed about instructional models (Part I); sponsorship (Part II); and ends by proposing

a set of second generation studies (Part III).

II. Instructional Models

History. Unlike Head Start and almost by accident those charged with managing the Follow Through program chose to use an intervention supervised by persons outside the local school districts. As a result of dramatic cuts in the OEO budget in December 1967 the Follow Through budget was slashed from $120 million to $15 million (Haney, 1977).

What started out to be a major social action program built on top of Head Start was in trouble. A new identity was needed for survival and the new identity was planned variation, a concept derived from some recommendations and background information, contained in the Report of the Task Force on Child Development chaired by William Gorham, Assistant Secretary for Planning and Evaluation of the Department of Health, Education and Welfare. The Report had suggested that the Follow Through program be used to evaluate major variations in compensatory education programs in the early elementary grades. The Task Force suggested that:

> In consultation with the Office fo Economic Opportunity, the Commissioner of Education should develop a plan for Follow Through projects that systematically vary
>
> --curriculum
>
> --pupil-instructional staff ratio
>
> --racial and socio-economic mix
>
> --age and training of teachers and aides
>
> --type of parent involvement.
>
> At the same time, he should develop a plan of evaluation using
>
> --multiple criteria of success (achievement, self-esteem,

and social competence)

--comparable measurements in as many programs as possible.

(quoted in Haney, 1977, p. 16).

The problems of mounting such a program from the U.S. Office of Education were partly resolved when Robert Egbert, the Director, and Richard Snyder, the Chief of Evaluation, developed the idea of sponsorship. Sponsors would develop and implement an instructional model as well as relieve the U.S. Office of Education of the likely charge that they were dictating local educational policy and program. "From the point of view of administering the planned variation experiment, the idea of model sponsors was, as Richard Elmore termed it, a stroke of genius" (as quoted in Haney, 1977, pages 17-18).

In Follow Through a number of joint-venture projects were begun, each of which included an LEA, the federal government, and a model sponsor. The state education agencies were, in many instances, less conspicuous parties to the program. The federal government delegated the content of the program--what was to happen to children--to the sponsors. The local education agencies were to host these models and through the direction of the sponsor staff instruction was to be delivered to children according to the sponsors instructional model.

Independent Variables. The instructional models became the independent variables. Thus the definition, classification, and validity of the instructional models are important issues. These three characteristics have been difficult to specify with clarity and precision. There were several problems. First, the original developers were in various stages of development at the time of their invitaion to participate. The ulti-

mate form of these models was not to evolve for some time to come. From the beginning, therefore, the studies were hampered by incomplete treatment definitions.

Second, the treatments were to vary curriculum, pupil-instructional staff ratio, racial and socioeconomic mix, age and training of teachers and aides, and type of parent involvement (Haney, 1977, p. 167). These dimensions did not systematically enter into the selection of model sponsors. The lack of such requirements made a mockery of planned variation. This problem was magnified when no program was developed to determine the actual variations among models early in the experiment.

Third, comprehensive services, parent involvement, and the delivery systems were supposed to be constants but they were not. These aspects of programs probably varied as much as the instructional approaches but not necessarily in tandem with the models. Even assuming a well-designed experiment in all other aspects any results would be suspect due to these variations. But even more important, comprehensive services were available in all communities, but not to the control children, thus contaminating the experimental-control comparisons (a fact noted too infrequently).*

Fourth, some models changed dramatically over the course of and as a result of the experiment. Even the more well developed models changed as the developers gained increasing insight into their own theoretical positions as a result of the tensions created between the reality of the

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*Comprehensive services were, however, responsible for the participation of many families who would have chosen not to become involved except for these benefits.

sites and the idealism of the models. Sponsors models and communities have both changed as a result of the interactions. These reciprocal influences are real-life and desirable phenomena but they do confuse the identification of the treatments.

Fifth, most sponsors associated with more than one site will testify to the wide variation in the degree to which the instructional model was executed among sites, among buildings, and among classrooms. It has become equally clear that sponsors varied tremendously in their effectiveness in the development, translation, and enactment processes of sponsorship.

Classification. Several attempts were made to classify the variations among treatments. Two of these were empirical and the remaining were post hoc and intuitive. Soar (Note 3) made a valuable contribution to the Follow Through literature as he studied the interactions in a variety of Follow Through classrooms. He studied the differences among Follow Through models through classroom observations. He attempted to specify these differences on the basis of classroom activities and the types of teacher control style. Some classrooms from among nine sponsors were studied. The results indicated that the classrooms of the sponsors fell into from two to four differentiable ranges, but that these ranges were not statistically different from one another.

Stallings and colleagues (Note 4) and Stallings, Kaskowitz, and colleagues (Note 5) studied Follow Through classrooms through an elaborate observation system in each of two years. Twelve sponsors' classrooms were observed in 1971-1972 and seven sponsors' classrooms in 1972-1973. The results indicated that sponsor classrooms could be differentiated from one another with some degree of success. It was also discovered, however, that

the variables that appeared most salient in the differentiations were not those that necessarily related to the conceptual dimensions of the models, as was predicted. Direct Instruction and Behavior Analysis classrooms were most frequently identified correctly, they were seldom confused with the classrooms of other sponsors, the classrooms of other sponsors were seldom identified as Direct Instruction or Behavior Analysis, and classrooms that were not Direct Instruction or Behavior Analysis were more frequently confused with one another than were Direct Instruction and Behavior Analysis confused with any other type of program. The most important dimension enabling an observer to differentiate was the degree of structure in adult-child interaction, or independence of child activity. Unfortunately, neither the Soar (Note 3) nor the Stallings (Note 5) studies included all of the models that were included in the national evaluation. Both studies required elaborate and costly observation schemes. Experimentors did not use these studies to assess the relative degree of implementation and relate these data to the Cohort III outcome analyses (Cohort III was the principal cohort used to summarize Follow Through outcomes). These studies did not generate the means to clearly differentiate the operating models on dimensions that make conceptual sense.

One important post hoc intuitive differentiaiton among models was made by Stebbins, St. Pierre, Proper, Anderson, & Cerva (1977) in Volume II-A of the Abt Associates analyses of the Cohort III data (the most widely discussed report of the Follow Through Planned Variation experiment). The distinctions made by Stebbins and colleagues were based on the written descriptions of the models. After reviewing several alternative classifications, it was decided to classify sponsor models on the basis of their

goals as interpreted by Stebbins and her colleagues. In addition, this group classified the outcome measures along the same dimensions as the models. Which classification came first is not clear. Models were thus identified as Basic Skills, Cognitive-Conceptual, or Affective. Much controversy has resulted from these classifications. House, Glass, McLean, and Walker (1978) have said about this process:

> As anyone familiar with innovative educational programs knows, some distance frequently exists between a project's stated aims and those it actually pursues. In describing an innovation to those not familiar with it, one emphasizes as many good points as possible and ordinarily does not say much about the priorities among these points. In any event, to read self-descriptions of program goals and make a judgement about the model type is an exceedingly complex matter, one where reasonable people are likely to disagree. Furthermore, the judgements apparently were made intuitively. Nowhere are any procedures or criteria specified. The report does not describe the individuals who read the statements of goals and objectives, their training, the time they took, or the directions given to them. Overall, the three-fold classification system for Follow Through models does not meet the criteria that such schemes are normally expected to meet in social-science research. Serious questions must be asked about a classification derived under such conditions. (p. 136)

Attempts to order instructional models along meaningful continua have suffered from diverse and often conflicting goals and objectives, the various assumptions about appropriate incentives for children, equivocation

in sequencing activities within a program, and the lack of clear definitions of teachers' roles. Karnes (Note 6) and Dickie (1968) chose the continuum of level of structure within programs as the critical variable. Differences in structure appear to be more obvious, more readily scaled, and more available for empirical study than other variables. It may not be the most critical variable.

Confounded with the concept of program structure is the role of the teacher as it is projected in different models. It may be possible to identify a continuum of teacher behaviors related to presentation modes, feedback strategies, and diagnostic interactions quite independent of program structure. Scales reflecting this continuum could be drawn from the various models and applied to the analysis of classroom behavior to see if the models generate different teaching styles and to determine the dimensions of model differences. Identifying what teachers are required to do under various models is essential (Hodges, 1973).

There are other classifications. Kohlberg (1968) in his review of cognitive-developmental theory briefly described the nativist-maturationists and the behavioristic-social learning positions. Rohwer (1970) analyzed in some detail the instrumental-conceptual and cumulative-learning positions of Jerome Bruner and Robert Gagne, respectively. Katz (1969) differentiated two major approaches to education as "traditional" and "experimental." She saw the major distinction between the two approaches as differences in teacher behavior with respect to: (a) who initiates the classroom action (teacher or child); and (b) what role the teacher plays with respect "to reinforcement." Bissell (Note 7) in a more fine-grained analysis has separated approaches on the basis of: (a) general teaching strategy from

permissive to structured; and (b) major curriculum input including enrichment, cognitive, information, environment. She then classified 20 programs under these dual criteria into categories of Permissive Enrichment, Structured Cognitive, Structured Informational, and Structured Environment. In addition to this first analysis, Bissell reviewed each program for its general objective (development of whole child, development of learning processes, and teaching of learning processes), the degree of structure provided, the nature of the structure, and the specific objectives for children.

Horowitz and Paden (1972) have suggested yet another dimension separating the models--how disadvantaged children are viewed with respect to the source of their school difficulties. They point out that some assume deficit functioning in the child. Others assume that disadvantaged children have suffered distortions in socialization, e.g. lack of motivation for achievement. Still others assume that a large repertoire of competing responses has been learned. Each of these three assumptions--deficit, distortion, difference--leads to differences in the resulting educational model. Horowitz and Paden believe that the difference assumption is the most parsimonious and productive.

Definition: Proper and St. Pierre (Note 8) preferred to refer to the instructional programs implemented by Follow Through sponsors as approaches rather than models. Their reasoning was that the concept of model implied a fixed system unreflective of the dynamics of educational change. Model, however, does have the connotation of a more idealized design for instruction and thus the current author has stuck to that concept which is, by now, a familiar one in the educational community. "Approach" is too soft a term to apply to most of the models which evolved in Follow Through.

Proper and St. Pierre (Note 8) chose a framework for assessing potential model sponsors based on a review of Follow Through literature, implementation literature, and Follow Through regulations. This framework identifies elements over which sponsors have some degree of control and includes:

A. Program characteristics:
   1. Curriculum and materials;
   2. Organizational structure;
   3. Role/behavior;
   4. Knowledge and understanding; and
   5. Specification and evaluability of objectives.

B. Implementation strategies:
   1. U.S.O.E. (now Department of Education), sponsor, and local education agency relationships;
   2. Training; and
   3. Evaluation (Proper and St. Pierre, Note 8, p. 11).

This framework is helpful but does not go far enough. In the present author's framework an instructional model must demonstrate that it is capable of eliciting the support of faculty, staff, administrators, and parents. The model-sponsor staff must be able to show changes in the knowledge, attitudes, and skills of the teaching faculties and staffs of the schools with whom they affiliate. Components of the model must be clearly related to what the children are supposed to learn in the schools and those objectives must be clear enough for parents and other non-educators to understand what the model represents. Model sponsors should not be responsible for child achievement directly--that is the local district's responsibility. There should be both a division of labor and a division of responsibility

in educational improvement projects. The following characteristics are a propo:

1. An instructional model will state explicit goals and objectives along with the source and rationale from which these goals and objectives are derived. Or the instructional model will include a process by which such goals and objectives can be derived. The rationale will reveal the points-of-view on child development and the role of formal education held by the model-developer. The model developer must also explain how the goals and objectives respond to societal pressures for an achievement orientation based on competitive individualism. If the model-builder focuses on other values then these responses are critical in giving the model face-validity.

2. An instructional model will include techniques and strategies for eliciting and maintaining the willful interaction of children with those activities designed to lead to the goals and objectives of the model. It is assumed that these techniques and strategies are non-coercive and non-punitive.

3. An instructional model will identify the criteria which guide the selection or creation of learning activities or materials consistent with the basic theoretical/philosophical position of the model-developer. These criteria may be rules for the use of any materials or activites as opposed to those criteria which govern selection or development.

4. An instructional model will indicate how the activities engaged in by the children lead to both proximal objectives and distal goals and what order is presumed to best facilitate child development.

5. An instructional model will specify the knowledge, attitudes, and behaviors required of the teachers, paraprofessionals, administrators,

parents, and others in its implementaiton.

6. An instructional model will include techniques and strategies for eliciting and maintaining the willful interaction of the faculty, staff, administration, and parents in the implementation of the model.

7. An instructional model will specify the criteria to be used in evaluating both the process and outcomes of implementation of the model and will specify the evidence required to substantiate the value of the model.

In addition to including the seven parts of the instructional model listed above a model can be judged on its consistency among

a. goals and objectives with practice;

b. practice with assessment and evaluation;

c. assessment and evaluation with goals and objectives.

Using the classifications of the variables among different models combined with the criteria for an adequate instructional model described below it is possible to conceptualize the multidimensional and overlapping nature of programs derived from different models. Developing a set of matrices to adequately describe model differences is one important refinement of efforts needed to make meaningful comparisons within- and across instructional models.

Such matrices can provide an initial format for determining the internal consistency of programs derived from a single model. Second, these matrices can be used to isolate differences among variables within one or more of the basic parameters of a model. The isolation of differences between programs derived from the same model will allow for the experimental analysis of effects of single variables on children. And third, these matrices will help identify major and more subtle differences among models. For

example, two programs derived from a maturationist viewpoint may differ on teacher behavior espoused while holding target population, materials, priority program objectives, and instructional objectives constant. The development of these two programs from a single model conducted by several teachers in each program, using the classroom as the unit of analysis, can be used to generate useful data regarding general teaching strategies in natural settings.

Similarly, behavioristic and cognitive-developmental programs may be derived which differ in priority program objectives, but hold constant specific instructional objectives, teacher behaviors, target population, and materials. Such programs will make it possible to gather data which will shed some light on differences among theoretical approaches.

Need. It has been assumed throughout this paper that instructional models are an appropriate vehicle for organizing theory, philosophy, and research into a coherent system for instruction and that the further development of such models will be productive in the education of children. Not everyone agrees so it is instructive to examine some of the presumed benefits as well as the potential shortcomings of model building as potential variables for future research.

Instructional models provide an organizing focus that enables tasks to be conducted more efficiently and with more conviction than might otherwise hold. These presumptions can be put to empirical test by comparing models on the degree to which each does this organizational task and does, in fact, make life in schools more livable (Egbert & Brisch, 1978).

Instructional models can provide some consistency across classrooms, grade levels, and schools thereby potentially reducing discontinuities

experienced by children. One of the more obvious disadvantages of typical public school practice is the disarray among teachers as to what constitutes good professional practice. The effect of a well-conceived instructional model is to bring some order out of these differences. In addition models provide obvious criteria to use in accountability systems; an economy associated with a specific focus; criteria by which new ideas and data can be judged; and a thoughtful professionalism often lacking in public schools.

On the other side of the ledger the Follow Through experiences suggest that models can narrow the range of curriculum and limit the variety of teaching approaches. This can reduce the probability of selecting appropriate learning opportunities for those children who require an option. The implementation of an instructional model does require discipline, extra work, strong leadership, and continual administrative support.

The most serious flaw in model building is that some models give the impression of finality/truth even though both theory and data are not sufficient to build the ultimate instructional model. The best strategy under such circumstances is to build more, not fewer, models, and to do more, not less, research on their implementability and evaluability.

Finally, there may be some merit in the proposition that teachers have to build their own models of instruction. Such a proposition can be made only because there is so much ignorance concerning how to build an instructional system that can account for all learning and developmental behavior, not because there can never be a consistent system of "best practice" when adults and children are involved in the teaching-learning process.

The present diversity of models probably represents several aspects of instruction which when combined in a conceptually sound manner will lead to

greater empirical effectiveness. Some current model sponsors have initiated efforts to combine disparate instructional philosophies (notably High/Scope's Cognitive Curriculum with the University of Kansas' Behavior Analysis Classroom and Georgia State University's Parent Supported Diagnostic Approach with The Adaptive Learning Program of the Learning Research and Development Center at the University of Pittsburgh).

III. Sponsorship

Background. In a recent summary of 20 years of research and evaluation Hodges and Smith (1980) concluded that educational interventions with young children and their families work best near the base of the originator's home institution and where the intervention is part of a well-organized research effort. This is likely due to a number of factors including the physical presence of the principal investigator and to the special attention often given to those implementing the intervention. Everyone expects changes to occur.

Home and preschool intervention are more successful than intervention into a primary classroom. Two explanations occur: the home is a smaller, more flexible unit than an operating classroom, and preschool classrooms have been established primarily for purposes of studying them. Intrusion of an intervention program into the social system of an existing public school classroom requires changes among many levels within the system.

Curriculum models appear to be more comparable in effectiveness when implemented in tightly controlled research settings even when the originator is not actually present. Weikart's Curriculum Demonstration Project (Weikart, Epstein, Schweinhart, & Bond, 1978), Karnes Curriculum Comparison

Study (Karnes, Hodgins, Tesda, & Kirk, 1969), and the comparison of four curricula by Miller and Dyer (1975) all support this hypothesis. The better the control over the independent variables the more effective the interventions. This is no surprise and provides support for the belief that intervention in the preschool years can make a difference in the short-term if certain basic conditions--proximity, enthusiasm, focus--are met.

In both Head Start Planned Variation and in the Follow Through Planned Variation studies the intervention models were implemented as additions to or replacements for programs that were already being conducted by local Head Start projects and local school districts respectively. Control over the independent variables (the curriculum models) was difficult in these situations and the results were disappointing. In Follow Through, for example, there was a preponderance of null effects, a modest number of effects in favor of Follow Through, and a third set of effects favoring non-Follow Through (Stebbins, et al., 1977). When each model's effectiveness is examined closely, it is clear that the models which gave the most attention to the skills typically measured on academic achievement tests had more success in more communities than did the models which directed the bulk of their attention to other concerns--productive language, problem-solving, and decision-making.

The conclusion above is qualified. Each Follow Through model was tried both in communities in which the model was poorly implemented and in other communities where implementation was more favorable. There was some, but not consistent, evidence that low levels of implementation were related to less favorable results for Follow Through compared to non-Follow Through children (Stallings, 1975). But implementation and outcome were

not part of the same studies used to document the effects of Follow Through. No adequate measure of implementation of an intervention has yet been developed, however, although the problem has received an increasing amount of attention (Hall, Loucks, Rutherford, & Newlove, 1975).

Home intervention may be the easiest type to implement. In this author's experience--the home instruction component was easier to implement than the classroom instruction component (over 90% cooperation was achieved from parents during the first year of the project). Phyllis Levenstein's Mother-Child Home Program is a major intervention research effort that has been implemented well in communities away from the originator with little apparent loss of effect. Levenstein's model does not require that an intervention be implemented in an ongoing educational or child-care system but rather within homes where there is no systematic competing program.

Long-term effects. The Consortium on Developmental Continuity (Lazar, Hubbell, Murray, Rosche, & Royce, Note 9) and the High/Scope Educational Research Foundation (Weikart, Bond, & McNeil, 1978; Weikart, Epstein, Schweinhart, & Bond, 1978; and Weber, Foster, & Weikart, 1978) provide follow-up data indicating that children who were in experimental preschool programs during the 1960s were more frequently in grade for age and not as frequently in special education as were children from contrast groups of those original studies.

Data from the Ypsilanti Perry Preschool Project (Weikart, Bond, & McNeil, 1978) show a link between the preschool and later effects in the form of consistently higher achievement test scores for the experimental children throughout their school years. These data show that the later effects are not necessarily "sleeper" effects with no mediating link between preschool

intervention and later school performance.

Weikart reported that:

> Preliminary analyses of achievement test data obtained at eighth grade, nine years after the preschool intervention, indicate that the difference between the experimental and control groups continued to increase. In eighth grade, the experimental group outperformed the control group on the California Achievement Test total score and on all but one subtest. The magnitude of the treatment effect was at least twice that found at fourth grade. Although achievement levels in the experimental group remain, in general, far below that of the national norm (as does achievement for the community as a whole), achievement gains by eighth grade would seem to be educationally as well as statistically significant. (p. 88)

Weikart, Bond & McNeil (1978) note that "there is little in the early childhood education literature to parallel this finding of achievement differences not merely persisting but growing through the fourth grade" (p. 88).

How to replicate educational models out of the context of small, intensive, fairly well-controlled research studies run on, or near, a model-developers' base-of-operations and into the non-experimental world of local school districts in far-flung communities is still a major concern. Kennedy (1978) wonders if the idea of replicating educational interventions is not fool's gold...

> ...at any unit of analysis--child, classroom, school, or community--education is a dynamic process, and one which interacts

with all aspects of life in the community. New treatments, when placed in such settings, cannot be expected to demonstrate the simple additive effects that are found in laboratory studies. Perhaps what is needed are studies of the relationships between education and the environment, so that those factors which influence treatments, or which combine with treatments to influence outcomes, can be understood. (p. 11)

The recent emphasis on accountability has led to an even greater demand for change in the schools and more adequate evaluation systems. Consequently the process of change has become an issue in U.S. education and in educational research. Additional modes of encouraging change have been tried including: demonstration projects in early childhood-special education, technical assistance centers, strengthening state departments of education, establishing accountability requirements, emphasizing performance standards for faculty and administrators, establishing educational laboratories and research centers, initiating the Follow Through sponsorship concept, the Follow Through resource centers, and building the National Diffusion Network.

From among these efforts several general strategies for change have emerged including the provision of new knowledge for those who are supposed to have power to effect change in practical situations, the provision of technical assistance for those who are implementing new programs, and the provision of model-sponsors who have the responsibility to formulate, translate, and enact different models of instruction.

Sponsorship and Educational Change. Sponsorship as an educational change process fits several of the educational dissemination principles

as synthesized by Raizen and Green (Note 10) and Emrick and Peterson (Note 11). (a) Effective dissemination and change require that usable information be readily available. Sponsorship meets this requirement handily since one task of the sponsor is to meet the information needs of projects. (b) The information should be relevant to the user's needs. The relatively long-term sponsor-LEA relationship might well be based upon a continuous assessment of the needs of the LEA and in many instances this was the case. The sponsor is in a good position to assess local needs. (c) Problem-solving should be a continuous activity. Sponsors and LEA personnel were engaged in this process to a greater extent than would be likely without the sponsor. The presence of an external resource makes problem-solving a more likely activity than it is when the LEA has no external pressure. (d) A carefully developed plan of action research must guide the change process. In Follow Through there was, in many projects, a process/formative evaluation system that was used to inform the curriculum, staff development, and parent involvement activities. (e) The culture of the community must be incorporated into the program and the innovation must be able to adapt to the local environment. For several sponsors and their related LEAs this process of mutual adaptation was paramount. Since sponsor representatives are in communities for significant periods of time this principle can be honored through the gradual shaping of both parties to fit the cultural realities of each community. (f) Adoption of new ideas occurs in stages and the speed of adoption is determined by the culture of the adopters and the complexity of the innovation. This principle was a basic part of the original grade-by-grade installation of a Follow Through model. In retrospect, most sponsors would suggest that the adoption process be

broken down into even finer steps, e.g., teacher and parent education, gradual changes in teaching style, planned curriculum change, and careful process evaluation.

Follow Through observed other dissemination and change principles less well. For example, sustained commitment and top level administrative support were not consistently attained early in the projects and in some projects such commitment never materialized. Some sponsors were less than willing to consider alternative strategies to the ones that they advocated. The same can be said for some local projects, too. Perhaps the greatest breach of principle was that all stakeholders were not a part of the sponsor selection process or the early planning of local projects. It took considerable time to build a sense of openness and trust among sponsors, local projects, and the parents. In some instances such openness and trust never evolved.

Finally, Mann's (1978) paradox is particularly relevant to the concept of sponsorship as an educational change strategy.

> Change is whatever the service deliverers--schools and teachers--decide it is to be. The less self-determination is allowed to these ultimate implementors of change, the less total change will result. On the other hand, the federal government has a responsibility to cause improvements in education. We expect the federal government to make change happen even where local authorities--including teachers--may disagree. The decisions of local-level actors about what changes should or should not be implemented are legitimate decisions. But so are the decisions of federal-level administrators. If delivery-level autonomy

vitiates or contradicts federal decisions, then how can there be a user-driven, federally supported system of school improvement? How can a federally sponsored system be designed that maximizes user self-determination? (p. 389)

Wide variation among local-project results was found among the data. The level of implementation of a model in a local-project depended on many factors, including for examples:

1. the simplicity or complexity of the educational model,
2. the breadth of focus of the educational model,
3. the organization of the model-sponsor,
4. the effectiveness of the model-sponsor representative,
5. the motivation of the local school district for participating in the study,
6. the degree of support from the upper administration of the local school district,
7. the local-project director and the faculty and staff of the specific schools involved (especially the principals),
8. local teacher placement and retention policies,
9. local child placement and retention policies,
10. the demands placed on local school districts by state departments of education,
11. the influence of teacher unions,
12. the local school district's regular curriculum,
13. the weather and natural disasters of various kinds such as floods, and
14. many others.

Participants in the Follow Through experiment believe that these influences on implementation were not random and, therefore, contributed much to the findings of wide variation among local-projects on the outcome measures used. It is unlikely that better design of new experiments will be able to significantly reduce these variations and, therefore, it is suggested that these differences be assumed to exist and that measures of implementation be used as covariates in child outcome analyses.

There is much unknown about the implementation of educational programs. Many ideas have been tried. Several have been evaluated. None is a clear-cut winner. Obviously implementation depends on a host of interacting variables. One problem with the conclusions concerning the dissemination/utilization process is that the knowledge available is derived from syntheses of the results of independent studies using different strategies. Nowhere are the several techniques of educational change compared directly or combined to determine the effects of multiple strategies. In addition, the studies reviewed by Emrick and Peterson used indices of change, dissemination, and utilization as dependent variables and did not provide data on child outcomes. Retrospective studies within existing projects can help provide some understanding at relatively low cost. Prospective Follow Through studies should provide opportunities to study child outcomes and implementation processes concurrently.

Measures and Variables. Assume that an instructional model is well-formulated, the developer eager to cooperate in an experiment by putting the model on the line, the objectives consistent with a philosophical and theoretically sound base, and the instructional requirements such that they can be implemented in local communities. This degree of development

and commitment is necessary but not sufficient. There is also a series of management variables to be considered including:

1. The role of the Department of Education.
2. The role of the model developer.
3. The role of the local community, including parents.
4. The role of the State Departments of Education.
5. The role of external evaluators.
6. The selection of instructional models.
7. The selection of communities and their match with models.
8. The education of stakeholders concerning the nature of the experiment and the interrelationships to be sought among them.

The Role of the Department of Education

The administrative branch of the federal government is to promulgate rules and regulations in accordance with the laws passed by Congress and to see that these rules and regulations are implemented by grantees or contractors. In the development of Follow Through Planned Variation, especially during the early years 1968-1971, project officers sat with sponsor and local education agency representatives to negotiate the budgets for each succeeding year. This process was time-consuming but productive. The discussion of budget items clarified the perspectives of all three parties concerning what both the model sponsors and the local education agency desired. In some instances the federal project officer arbitrated differences between site and sponsor that would have been difficult for the two to resolve without the project officer. During this period there was a three-party program in operation. By most accounts this process was meritorious.

The three-party negotiating process gradually faded to a mere shadow of the hard negotiating that took place in those first few years. Bureaucratic realities, budget limitations, changes in federal office priorities, and an apparent lack of leadership at the federal level led to an erosion of the joint three-party negotiation process. What took its place was confusion, indecision, and miscommunication.

The role of the federal government in the program continues to be confused. The sponsors have noted the following recent items related to the federal role in administering the program (Weikart, Note 12).

- Follow Through was level-funded from 1975-1980, allowing inflation to erode the program. This summer and fall, (1980), Congress enacted 25% cuts in the program as part of its efforts to balance the federal budget and control inflation. (Weikart reference notes, 1980, page 2-3).

- Follow Through's administrative agency has introduced initiatives to reduce or phase out the program every year since 1974. The negativism of middle and high-level Department of Education officials towards Follow Through has resulted in extreme frustrations for those officials directly responsible for the running of the program. The National Follow Through Director has been quoted as saying, "Follow Through is regarded as a successful and worthwhile program everywhere but in its own agency." Congressionsl contacts have frequently told their constituents that the resistence to the program has not originated in Congress, which by-and-large favors Follow Through, but from the administration. Congress is reluctant to support a program which has only moderate support from its own agency. At a recent Follow Through Conference, an aide to one Senator said that one of the biggest obstacles facing Follow Through is the Senate's concerns about "the intent

of the Department of Education." Administrative confusion surrounds the program and the Department of Education's failure to issue new regulations for Follow Through is a symptom of this confusion. (Weikart, Note 12).

- It is estimated approximately $1.8 million in Follow Through funds for 1980 and 81 remain unspent and may be returned to the Treasury. Management of these funds has been unclear. Late in September, all of the Follow Through local projects received calls from their project officers informing them that they would recieve 3% supplements to their budgets resulting from a surplus of $800,000 left over from the previous year. A few weeks later, after many local projects had committed themselves to new expenditures based on the 3% increase, the budget supplements were inexplicable withdrawn (Weikart, Note 12).

- The Department of Education recently awarded a large contract to the Urban League using Follow Through funds. All unsolicited proposals from groups within the program were rejected without official notice to the proposal authors (Weikart, Note 12).

- The Urban League is one of two new organizations to recently recieve Follow Through reserch funds. Follow Through awarded $400,000 of its 1980 budget to the National Institute of Education to design a five-year program of Follow Through research. It is planned that NIE will receive $2.5 million per year for the next five years to carry out the research program. (Weikart, Note 12).

As one can detect from these few examples Follow Through has been vulnerable. The program has been subjected to repeated attempts to phase-outs and budget cuts, mostly initiated from within its managing agency (formerly USOE, now Department of Education). Despite Follow Through's

chronic torubles with its administrative agency Congress continues, year after year, to appropriate money for the program. Follow Through survives because, like Head Start, the people to whom the program is directed--the children, parents, teachers, staff, and community members--see it as successful and effective. (Weikart, Note 12).

One continues to hear from Department of Education officials that Follow Through is too expensive compared to other compensatory education programs. The usual referent is Title I programs. Title I, however, is a "pull-out" program delivering 30'-40' of service to a child each day with no comprehensive services. Follow THrough, in most situations, is a comprehensive program providing health, nutrition, and social services, whole day educational programs, and systematic parent involvement. It has also been a vehicle for research and development. Realistic cost comparisons have not been made.

There are a number of roles that the Department of Education can take in the promulgation of future Follow Through studies. These roles can be studied as part of the research program. Whatever policy the Department of Education takes it should be as clearly articulated as are the objectives required of the model developers and the local school districts and subjected to rigorous evaluation as part of the implementation process.

The Role of the Model-Developer: Sponsor

Sponsorship differs from other intervention strategies (Beers, Notes 13, 14). It is not technical assistance alone. Technical assistance does not imply responsibility on the part of the technical assistant. Technical assistance also implies that there is a finite time limit between the technical assistant and the client organizaiton. Sponsorship assumes some

resporsibility for the effectiveness of the program and an unspecified time limit. Technical assistance is usually narrowly focused while sponsorship is broadly focused.

Consultation and sponsorship differ in the above three ways as well as in the degree to which the sponsor "owns" the program compared to the degree to which a consultant is free of ownership. The differences between sponsorship as a change strategy and encouraging local education agency self-help through monetary incentives, making information, packages, and modules available, and providing new curricular program and voluntary training are obvious. Sponsorship is a true intervention--thereas, most other change strategies are not. In summary, sponsorship differs from other strategies at least on five variables: time, accountability, breadth, ownership, and degree of intervention.

Development. Sponsorship can be compared with other curriculum reform developments of the 1950s and early 1960s such as the Science Curriculum Improvement Study, The University of Maryland Mathematics Project, The School Mathematics Study Group, The University of ILlinois Committee on School Mathematics, the Physical Science Study Committee, the Bological Sciences Curriculum Study, and the CHEM Study. These were all devoted to the development of curricula in a single subject-matter area. The task was similar to but more comprehensive than that assumed by a textbook writer. Only modest concern was given to how these new curricula were to be fit within the structure of the school day and the limits of space and time. Each developmental group strove for the ideal in that particular discipline. Teachers generally had to execute these curricula with some preservice orientation and training, but with little continuous

support (Hodges, Sheehan, & Carter 1979).

Sponsors developmental tasks were different. They were able to develop a complete instructional program that encompassed a major part or the whole day*. No single subject-matter was the focus of their developmental efforts. Long-term training and support for teachers were provided. The sponsors were developing models from developmental theory, educational philosophy, or psychological principles. The curriculum reformers in science and math had done this, too, but their theories were more attuned to the subject matter and to a model of the adult as mathematician and/or scientist. Sponsors were concerned with the nature of the child and the impact of both home and school on the emergent adult. Sponsors were following-up on Head Start which was decidedly developmental in focus (Datta, 1976).

Developing a more complete primary program had several implications First, sponsors had to think of the classroom, the home, the school, and the community as a system. A proposed change in the classroom effected other parts of the classroom as well as other parts of the system. Adding achievement tests or monitoring instruments had negative or positive repercussions throughout the system depending upon the degree to which each part of the system had been considered. These interrelations are well noted by Bronfenbrenner (1974) and others whose concern is with the ecology of educational (and other) interventions.

Second, the system did not stop at the boundaries established by the legislation. The kindergarten and primary grades were only a sub-system

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*There are several execptions to this statement. A few sponsors worked mainly with parents and supplemented the routine curricula, others were not curriculum models, and still others intended to supplant only the existing approaches to math, reading, and language.

of the larger network of the community. School buildings usually hosted three or more grades in addition to the Follow Through project. Teaching methods introduced as part of Follow Through spread to other classrooms. In some buildings not all the kindergartens or primary classes were included in Follow Through. In many situations there were competing programs in operation. Families had preschool and older children who became part of the system. The regulations prohibited direct services to these children but the concern with change dictated that sponsors deal with entire families. School building principals were responsible for more than Follow Through and this distracted from the saliency of the model.

Third, sponsors had to consider daily classroom management concerns such as lunch money, bus schedules, toilet time, play routines, state requirements for so many minutes of arithmetic or reading per day or week, and on ad infinitum. These concerns were met by developing curriculum materials, assessment procedures, monitoring devices, training manuals, training workshops, training materials, and evaluation instruments and procedures on a large scale (Rath, O'Neil, Gedney, and Osorio, 1976). A sponsor had to develop an instructional model for adults in addition to the instructional model for children.

Translation. Developmental activities represented the first step in the process of sponsorship the theoretical-philosophical position of the sponsor into a system for educational change and dissemination. The model had to be translated for and by its users.

Some sponsors believed that presenting a set of teaching principles derived from cognitive theory to teachers would result in change in the classroom. Others believed that philosophy could be made operational by

continuous consulting with teachers in order to find and meet the teachers' needs. Still others believed that workshops on behavior management would be required before discipline and on-task behavior could be improved. But these processes were insufficient.

Follow Through had a research and development focus. Process evaluation was an integral part of many sponsor's implementation package. Sponsors learned quickly that lecture-workshops were not sufficient. The gap between practice and the teacher-trainer's model of teaching was noted. Sponsors who espoused diagnostic teaching learned that such a goal was not universally sought by teachers. Those who were interested in shifting from large-to small-group instruction often found a lack of enthusiasm for the extra work required to support it; even when extra time and pay were provided for planning. Specific step-by-step instructional activities had to be developed and implemented. Rationales for all changes had to satisfy the natural pessimism of local staff. Frequent (weekly if possible) mutual sharing and support sessions among local staff were necessary.

Enactment. A third aspect of sponsorship was to see that the users in a local project were able to enact the sponsor's translation of the model. The responsibility for getting someone else to enact an operational version was a new role. Most previous educational reforms, such as the curriculum reforms in math and the sciences of the 1950s and 1960s, did not hold the developers responsible for implementing their curricula. Textbook series authors are not directly responsible if their methods, materials, and content do not work, but sponsors were. This accountability resulted in heavy involvement of sponsors in field testing and enacting the model.

The enactment process required that sponsor staff work in project communities on a periodic but routine basis. Sponsor and community were bound together by a common funding source and the tie between a community and its sponsor was not easy to break.

In order to translate and enact their models in a local school system sponsor staffs had to be trained in the philosophy and activities of the model. New roles had to be developed for sponsor-staff who visit local communities. Target personnel in local schools had to be identified. Sometimes a local person was hired by the sponsor to be the local staff trainer. In other instances roles were developed wihin the local staff that served the training and monitoring function. Frequent visits to the local communities by sponsor representatives were part of the routine pattern of service.

The focus of development had to shift from materials to people because Follow Through rapidly became a major teacher-training program with sponsor staffs analogous to departments of teacher-training. Each department (model headquarters) had its theoretical base. Each had its chairperson in the sponsor-leader, and each had one or more staff development projects in local communities.

Sponsors became on-the-job adult educators, who still had to consult and advocate, but who could no longer ignore the problems of meshing an idealized program into the real world of schools and communities.

Sponsors were described by some local personnel as catalysts. They provided the necessary difference to enable the system to develop alternatives for some of its children. Sponsors were described as "burs under the saddle" in other communities. They were seen as intellectual brokers--translating some textbook ideals of teaching and schooling into potentially usable form.

One conclusion has emerged--local school districts are not usually able to fill the catalytic, challenging, translating functions filled by competent sponsors. Sponsorship came to be wiewed by many as a new strategy of educational dissemination, diffusion, and change.

Comments. Sponsorship is a critical and unique feature of Follow Through. It is also the most controversial. On the surface, sponsorship represents one of the most extreme forms of intervention. It encompasses other forms of change strategy and adds to them by connecting schools directly to an immediate source for up-to-date social science research, resources for self-renewal, and growth potential through the catalytic function of the sponsor.

If sponsorship is so grand why didn't more happen? Why are the data so equivocal? There are several possible explanations:

1. Sponsorship is too extreme as it presently exists. Local education agencies have too little say about the content of the instructional program, too many conflicts with local and state mandates occur, too many federal programs compete for the teachers' attention and the children's minds.

2. On a slightly different tack it may be that not enough is yet known about the processes involved in sponsorship so that implementation is generally weak at each link in the interactive chain among local education agency, sponsor, and federal agency.

3. The models of instruction, based as they are on child development, learning theory and research as well as educational philosophies and conventional wisdom, reflect the weaknesses and softness in their underlying theories, philosophies, and research data. Theories are weak and convincing

data are scarce. Instructional technology is insufficient once instructional objectives move past the level of basic skills.

4. It is possible that the model developers were not bold enough. What was thought to be revolutionary in model development may only have been the reorganization of strategies similar to standard teaching practice. If it was otherwise one must assume that the schools selected for Follow Through were the least competently staffed, most disorganized, and least effective of all potential experimental sites and, therefore, with respect to their teaching, that these staffs could only improve under the auspices of a sponsor. If, one assumes, however, that school districts were selected because they were among the most progressive (or aggressive) districts in each particular state then a different phenomenon may have been occurring. Imagine faculties who believed that they were doing a respectable job--and the best that could be done--who were now subject to a new or different model being imposed by persons external to the system.

5. It is also possible that the constraints within which public schools operate allow too little flexibility to accommodate the dramatic changes necessary to show up in achievement test scores.

The Role of the Local Community

The local education agency's mission is to deliver a program in accordance with local and state mandates and always within bounds of limited resources. These mandates have become increasingly specific in the past ten years. Several states have passed minimum competency exams for graduation from high school. The requirement of these exams has influenced policy, curriculum, and evaluation all the way from kindergarten through the twelfth grade. Reading and math management programs, minimal require-

ments for passage from one grade level to the next, and, in general, more concrete ways of holding teachers accountable for child performance are waxing. In at least one instance a local school district has decided to withdraw from Follow Through because it perceived the model sponsor's approach as not being directly relevant to the demands being placed upon it for achievement in reading and math.

Local education agencies are complex social systems. These systems are relatively autonomous and self-perpetuating bureaucracies with a culture of their own. Follow Through required parent involvement in ways that local education agencies were unprepared to accommodate. Sarason (1971) has suggested "that many of those who comprise the school culture do not seek change or react enthusiastically to it." (p. 8) Sarason goes on to suggest:

> ...that those who are responsible for introducing change into the school culture tend to have no clear conception of the complexity of the process--no organized set of principles that explicitly takes account of the complexity of the setting in its social psychological and sociological aspects; its usual ways of functioning and changing; and its verbalized and unverbalized traditions and values." (p. 9)

Skinner (1968) has suggested that although the purpose of educational intervention is mainly to change:

> ...the behavior of the student, there are other figures in the world of education to which an experimental analysis applies. We need a better understanding not only of those who learn but of those (1) who teach, (2) who engage in educational research

and development, (3) who administer schools and colleges, (4) who make policy, and (5) who support education. These people are all subject to contingencies of reinforcement which may need to be changed to improve education as an institution. (p. 227)

Proper and St. Pierre (Note 8) suggest that the level of implementation of a model is an intermediate outcome of the change process,--a major point of this paper.

There are a number of issues concerning the local communities and the local education agencies that have not been addressed in Follow Through. One of these is the problem of selection of communities to participate. Examination of the original process of selecting communities reveals several inadequacies, also, including:

1. The lack of any assessment of the needs or status of the communities.
2. The frequently political nature of the selection.
3. The frequently narrow range of views from the local community represented in the local selection panel.
4. The lack of preparedness of the model developers to fully describe the demands that the model would place upon the community or to give reliable estimates of the benefits that might accrue to the community from installing the proposed model.
5. The lack of time available during the selection process for the model developers to adequately describe the program.
6. The inadequate understanding of the experimental nature of the program and the demands that participation in an experiment would place on the local community.
7. The lack of clear ties to the Head Start program so that the initial

mandate of Follow Through could be carried out--to follow through on the gains made by children in the Head Start program.

8. The Follow Through program was relatively small in some communities and the commitment to the conduct of the program was commensurate with the size of the program as perceived by administrators--for some it was "more trouble than it was worth."

The Role of State Departments of Education

State Department of Education personnel, as all other participants, should be party to the decisions to experiment. This was not true in the past and, therefore, confusion reigned at this level, too, concerning the purposes of Follow Through. Arrangements for allowing state regulations to be relaxed or suspended for legitimate experimental-model implementation purposes has been discussed elsewhere. An example of cooperation is in the crucial area of testing. State testing programs may have to be suspended for participating schools if project children are not to be overtested.

Follow Through was seen in several states as a small and, therefore, relatively unimportant program. It was not generally seen as a way to demonstrate new formats for other schools in the state.

It is obvious that State departments were given small roles in the experiment. Such small roles may be appropriate or inappropriate, but the issue of role for this agency must be addressed early in the planning for the next generation of experiments. Failure to include state departments in early planning can only result in less well-implemented models.

The Role of External Evaluators

The Follow Through experience has certainly revealed the weaknesses in not including external evaluators in the process of design and measure-

ment at an early stage of development. External evaluators are best contracted prior to the selection of model-developers or local education agencies. The contractor, if any, should be party to the initial design of the experiment(s); along with representatives of the model developers, local education agencies, parents, and probably a national advisory committee. The external evaluator should not be solely nor primarily responsible for the design of the study, the selection of instruments, the assessment of the treatments, or even the analytic techniques to be used. Decisions related to these issues should be determined with the assistance of the contractor, but basically by the advisory committee, the model-developers, the Department of Education, the local education agencies, and the parents.

Operation. The external evaluators must address both process and product issues as well as the formative and summative outcomes of the experiment. These evaluators must be competent in a wide range of evaluation procedures including experimental, quasi-experimental, documentary, and ethnographic-qualitative. Such a range will be necessary to learn the maximum amount from experiments. Plans to implement these techniques must be formulated well in advance of their use in the experiment.

The Education of Stakeholders

Early in Follow Through the model developers and their constituencies were kept separate from other model developers and their constituents. This process may have been an unnecessary effort at keeping already contaminated treatments pure. Contamination among models is a small problem. Keeping comprehensive services, parent involvement, and delivery systems constant was a large problem. This large problem may have been avoided if there had been adequate communication of how these variables were managed

among the various communities and some education and training of all stakeholders had been conducted to see that basic processes intended to be constant, were.

Education of participants is also needed to insure that all stakeholders' understand the nature of the studies and what it means to participate. Informed consent is no small matter. Alternative design considerations must be anticipated in order to account for the socialization of participants into the role of experimental subjects.

IV. Second-Generation Studies*

Weikart and Banet (1975) suggested that "planned variation experiments may prove most useful as prods to curriculum development, the refinement of evaluation techniques, and the generation of new hypotheses about changing individuals and institutions" (p. 72). Follow Through has been proven to have this heuristic value. It has illuminated the magnitude of the tasks of building instructional systems that work, of disseminating and implementing such systems, and of finding out if they will work outside the developer's direct influence. More bold new ventures in research on these issues are needed. Weikart and Banet (1975) also describe several phases in a research dissemination cycle that "begins with a tightly controlled research project and moves through the development of training materials, to demonstration and field testing, and finally to the dissemination phase" (p. 73). Their cycle is as valid today as when it was written in 1975.

Retrospective Studies. Follow Through has an existing network through which the process of implementation can be studied. Studies could be begun

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*An earlier version of this section appeared in Hodges, Carter, Cooper, Burge, and Mynatt (Note 15).

immediately among local-projects, local school districts, model-sponsors, and state educational agencies in the present network. These studies can explore some of the questions concerning community differences and implementation. These initial studies can use interviews, observations, and documentation of various perceptions of the local environments and the problems of implementation. Moos (1979) has pioneered in the evaluation of treatment environments and he and his colleagues have developed instruments for assessing the contexts within which intervention must take place. Adaptation of these instruments to the primary schools can yield valuable data, and a framework for interpretation that was lacking in earlier studies.

There is sufficient teacher turnover within existing local-projects to make possible studies of different modes of staff development as new personnel enter the systems. Using classrooms in several communities it would be possible to study different ways of working with different sets of teachers. Superintendents, school board members, principals, teachers, and other former participants can be interviewed to collect their perceptions about why Follow Through was difficult or easy to implement in a particular community. Sponsors and communities can study how to cut per-child costs, how to direct community comprehensive resources to the right children without having to duplicate or pay for these resources in Follow Through projects, and how to help the community participate more fully in education.

Second Generation Studies. The second generation studies proposed herein are addressed to a series of relevant questions. First, does more change in instruction occur under a sponsored mode of educational dissemination or under a knowledge-only mode? Second, what are the effects of

an instructional system (a model) on child performance? Third what are the differential effects of different instructional systems (models) on child performance? These questions are not precise nor is the multi-purpose design for a series of suggested second-generation studies fully planned. These ideas are presented for discussion purposes.

The proposed design follows (see Figure 1): 1. Assume that six educational models are going to be compared and that each model is to be implemented in ten communities. Communities that are asked to participate will have at least three school buildings which have significant numbers of Follow Through eligible children and whose staffs are relatively stable and willing to participate in a new adventure in self-development (and hard-work). In each community one school building will be assigned at random to one model, a second building to another model, and the third building to model X (the comparison school). In Community I, model A, B, and X will each be assigned at random to one of the three school buildings. In Community II, model A, C, and X will be assigned in the same way. In Community III, model A, D, and X will be assigned. In Community IV, models A, E, and X will be assigned. And in Community V, models A, F, and X will be assigned. This same process will be repeated for Communities VI through XV, thus pairing each model with each of the other five models. Beginning with community XVI and continuing through community XXX the entire process is repeated until every model has been paired with every other model twice (once in each of two communities). The pairs of models are assigned at random to pairs of communities. Communities are paired because of their regional and demographic similarities. As can be seen in figure 1 models A and B were randomly assigned to the pair of communities

I and XVI. Random assignment can be achieved in three instances within the proposed design--when models are assigned to communities, when models are assigned to schools, when communities are assigned to the sponsorship or the knowledge-only change strategy.

Sponsorship Communities					Knowledge-Only Communities			
Community	Schools & Models*			Community Pairings	Community	Schools & Models		
I	1/A	2/B	3/X	I Paired with XVI	XVI	46/A	47/B	48/X
II	4/A	5/C	6/X	II Paired with XVII	XVII	49/A	50/C	51/X
III	7/A	8/D	9/X	III Paired with XVIII	XVIII	52/A	53/D	54/X
IV	10/A	11/E	12/X	IV Paired with XIX	XIX	55/A	56/E	57/X
V	13/A	14/F	15/X	V Paired with XX	XX	58/A	59/F	60/X
VI	16/B	17/C	18/X	VI Paired with XXI	XXI	61/B	62/C	63/X
VII	19/B	20/D	21/X	VII Paired with XXII	XXII	64/B	65/D	66/X
VIII	22/B	23/E	24/X	VIII Paired with XXIII	XXIII	67/B	68/E	69/X
IX	25/B	26/F	27/X	IX Paired with XXIV	XXIV	70/B	71/F	72/X
X	28/C	29/D	30/X	X Paired with XXV	XXV	73/C	74/D	75/X
XI	31/C	32/E	33/X	XI Paired with XXIV	XXIV	76/C	77/E	78/X
XII	34/C	35/F	36/X	XII Paired with XXVII	XXVII	79/C	80/F	81/X
XIII	37/D	38/E	39/X	XIII Paired with XXVIII	XXVIII	82/D	83/E	84/X
XIV	40/D	41/F	42/X	XIV Paired with XXIX	XXIX	85/D	86/F	87/X
XV	43/E	44/F	45/X	XV Paired with XXX	XXX	88/E	89/F	90/X

Figure 1. A Multiple-Evaluation Design for Future Follow Through Studies Using Six Models, Thirty Communities, Ninety School Buildings.* Paired Models are assigned to paired communities at random. Within the two communities to which a pair of models is assigned at random the models are assigned to schools at random, e.g. Model A is paired with Model B and are assigned to communities I & XVI at random. Then Models A, B, and X are randomly assigned to schools. Communities are paired in order to be as demographically similar as possible. In a pair of communities one is assigned to the Sponsorship or Knowledge-only strategy at random.

KEY: Models = A, B, C, D, E, F, X (the non-sponsored contrast school selected in each community)

Communities = I - XXX
Schools = 1 - 90

It is now possible to compare models with each other within the same communities in addition to being able to compare each model with a non-sponsored school in the same community. One basic idea is that each community can be considered to be a complete study within itself and each pair of communities is another study. There are now two levels of randomization--communities to pairs of sponsors and school building to sponsor.

The reason for pairing each pair of sponsors in two different communities is to porvide an opportunity to study the effects of the models using the sponsorship strategy in one community and using a knowledge-only strategy in the second community. The third random procedure is accomplished when each one of a pair of communities is assigned at random to be sponsored or to receive a knowledge-only treatment from the model developer.

2. Determine Model Effectiveness Independently: The Idiographic* Within-Model-Studies

The proposed design includes a series of within-model studies which requires the gathering of baseline data on each of the schools that are chosen for the studies during the year(s) preceeding the implementation of the models (see Figure 2). The baseline data would include both implementation data and child outcome data for all classes in each of the three schools in the kindergarten through the third grade. The fact that ample time is needed for the collection of these data is obvious.

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*Idiographic is used in this paper in the sense of a study using a single model as the only case rather than in the regular meaning of a single-subject design.

Periods	Baseline	Treatment	Post Treatment
Data	Implementation Child Performance	Model A Model B Model X	Implementation Child Performance

Figure 2. Within-Model "Idiographic" Study

The design also requires that data be gathered after the sponsor-inputs have been removed. These data would also include implementation and child outcome data based on the same variables as those gathered for the pre-sponsorship baseline, for the experimental period, and for the post-sponsorship period. The length of time during which these post-experimental data should be gathered is indeterminate, but should be for as long a follow-up period as possible. The proposal here is to study the classrooms and the children in the same k-3 classes as well as to follow up the children who were in the classes during the experimental period.

This part of the multiple-evaluation design permits a variety of pertinent analyses directed at yielding information concerning several important questions. First, did any model in any community change the classroom implementation strategies from what they were before the model was installed in the school building? To answer this question implementation data from the baseline period are compared with each of the years of model installation after the first installation year. This procedure is carried out for each of the 90 school buildings in the project.

Second, after sponsor-inputs are removed is there any change in the implementation strategies? Data from the post-sponsorship period are com-

pared with the data from the sponsorship period.

Third, do child outcome data change from the baseline period to the experimental period? Outcome data from the baseline and the experimental periods are compared.

Fourth, do child outcome data change after the sponsor-inputs are removed? Outcome data from the post-sponsorship period are compared with the data from the sponsorship period.

These first four questions cannot be answered without entertaining the alternative hypothesis that history may have influenced the outcomes as much as the sponsor-inputs. The design of these sub-studies is, however, cleaner than previous studies.

3. Make Meaningful Model Comparisons

A second set of questions to be answered involve comparisons among models within each community, including the Model X school in each community where no specific model is implemented (see Figure 3). It is recommended that regression analyses be used in making these comparisons using implementation scores for each of the schools and regressing the outcome data of children on these implementation data. Since there are 30 communities involved in the study there will be 30 separate analyses. The 30-replications procedure is recommended in the face of the knowledge that community variability is great and is a source of nuisance variation that cannot be removed from the design. It is, therefore, important to know how each model fares in comparison with each other model given adjustments for implementation. A series of multivariate analyses is required, one for each community, that would provide an oversimplified picture of how many times each model was more effective than other models and the contrast schools in the total

picture. This design takes on the characteristics of a modified round-robin sports tournament. The tournament is, however, only one part of the proposed multiple-evaluation design and each model will be able to demonstrate its unique strengths through one, or more, of the sets of evaluation data.

Model A	Model B	Model X

Figure 3. Within-Community/Between Model Comparisons

* Implementation and Child Performance Data are Used in Regression Analyses (30 separate analysis).

4. Compare Change Strategies: Between-Community/Between-Change Strategies Studies

A third set of questions has to do with the differential effectiveness of the sponsorship strategy compared with the knowledge-only strategy (see Figure 4). These two strategies demand greater clarity of definition, but suffice it to say for now, that the sponsorship strategy is closely related to the strategy developed in the first Follow Through experiments and the knowledge-only strategy is similar to improved versions of the Program Information Packages (PIP). These PIPs have been tried before without overwhelming success, but in this instance there is more information available and the strategy would be modified to include initial technical assistance for the school administration and faculty that is to carry out a model without continuous sponsor-input.

Recall that each model is paired with each other model twice. In the previous questions models were compared within schools for the idio-

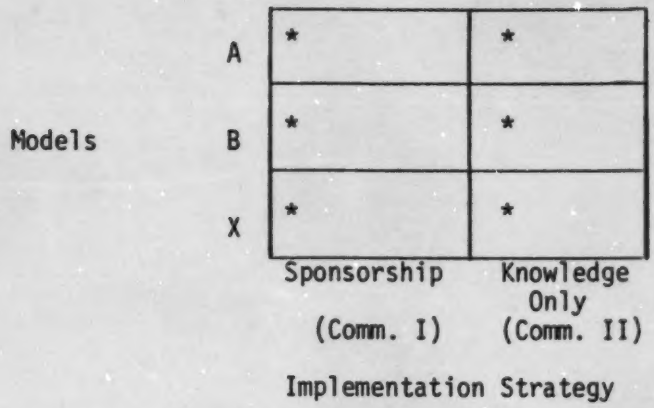

Figure 4. Between Community/Between Change Strategies.
* Implementation and Child Performance Data are used in Multiple Regression Analyses (15 separate analyses).

graphic studies--90 in all--and within communities for between model comparisons--30 in all. In this instance, between community comparisons are to be made. Implementation data are crucial to these comparisons and should be considered to be the first set of outcome data to be examined--the dependent variable is implementation (at least for the first analyses). The question to be answered is whether or not one strategy--sponsorship--is more effective in getting a model implemented than is another strategy--knowledge only. There are more serious problems in analyzing these data because the differences between communities are not accounted for and contribute to the variation in implementation and probably to variation in child outcomes. The communities are paired in the initial selection process, however, so that pairs of communities that are going to implement the same models (either by sponsorship or by Knowledge-only) are as similar as possible on demographic characteristics such as income of families feeding into the schools.

Advantages of the Proposed Multiple Evaluation Design. The design and analyses proposed above offer several advantages over previous evalu-

ation research strategies in field studies. First, there is the economy of maximizing information by consolidating studies into one format which allows a number of comparisons. There is the economy of being able to represent the variety of educational models by carefully selecting six models. Two models might represent heavy parent orientation, two models heavy skill orientation, and two models heavy cognitive-problem solving orientations. If heavy affective orientations are thought to be cruical then eight models should be included. If more money is available to expand the number of models studied then that might be an appropriate thing to do, but only after careful consideration of the knowledge to be gained. There is also the economy gained by having one school be one project. This will give tighter control over the independent variable and will place the school administrator in a key position where he or she should be in a project that will focus on over-one-half of the school population in that building.

A second advantage is that within-community comparisons are feasible under the proposed plan. In an earlier version of this paper it was proposed that three models be in a community and that a fourth "model" would be the local school district's plan. In addition, the earlier plan called for heavy parent involvement in a second group of four schools in the same community. The plan called for eight schools per community that were basically equivalent. The present plan reduces the number to three schools per community. Careful selection of participating communities for future studies will yield communities with three schools that have the appropriate characteristics. This will help reduce, but will not eliminate, the between community variation. There will still be school-to-school variation within

a community that will be nuisance variation. Implementing two models in a community will pose no more serious problems than one model and with careful preplanning these community problems can be minimized.

A third advantage is the multiple-evaluation strategy itself. One part of the multiple strategy is the within-model idiographic design using baseline data, treatment period data, and post-treatment data that will enable one to evaluate a model without reference to other models or to external controls. It is in this part of the design that it is recommended that each sponsor be required to design measures and gather data that will show the model to best advantage. In addition, information will be provided on the effects of sponsor-withdrawal. These sponsor-specific data should be in addition to the basic data recommended below for all schools involved in the project in all communities. A second part of the strategy is the within-community comparison among the two sponsored schools and the contrast school using multiple regression techniques with implementation scores and outcome scores included. The third part of the strategy is the between community analyses using the two communities which are implementing the same models but using different implementation strategies--sponsorship and knowledge-only.

A fourth advantage is the economy of data collection. The same data are used in each of the facets of the multiple-evaluation strategy. For example the implementation data are used in both the within-community between-models analyses and in the between-community/between-change strategies analyses. The same child-outcome data are used throughout the analyses.

A fifth advantage is that each model-sponsor will have to provide sponsorship to only five communities plus initial training and training

packages to five other communities. A disadvantage is that models will be assigned to communities at random. Such a plan may require that twice as many communities as are needed in the final study should be selected, the models assigned, and time given to see if the communities can and will work with the models assigned to them.

One question is whether the gain by randomly assigning models to communities is worth the potential loss of implementation within communities who do not want to affiliate with certain models.

V. Conclusion

A scheme for a second generation of Follow Through research is proposed in this paper. The scheme addresses questions concerning both how to instruct young children and how to get that instruction to them. An empirical approach has been recommended. Education is a value to which most of us pledge our allegiance. Some of us believe that education is an experiment and that the experiment can become more sophisticated.

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